

## **Abstract**

Quartzite samples taken in the east part of Krkonoše-Jizera Massif belong to metasedimentary cover of paraautochthonous unit. Rocks underwent a polyphase deformation which established a strong shape preferred orientation (SPO) of quartz grains. In folded quartz veins, deformation overprint mechanisms and microstructure, CPO and SPO relations were studied. For determination of crystal preferred orientations (CPO) the method of computer integrated polarization microscopy (CIP) was used. Microstructural analysis was focused on grain sizes, aspect ratios, long axis orientations and their relation to the deformation overprint grade. Results implies that dominant mechanism of quartz grain recrystallization is grain boundary migration. Folds were created by simple shear in microscale. The deformation overprint grade is strongest in the top of the fold hinge, where grains achieve highest aspect ratios and sizes. In the lower parts of the fold hinge the original CPO is preserved in small grains and SPO has similar orientation to original CPO. During folding CPO and SPO rotated with shear direction in dependance on deformation overprint grade.